

AUTOMATED CLOSED LOOP STEP TESTING OF PROCESS UNITS

ABSTRACT OF THE DISCLOSURE

A multivariable process controller controls a chemical, polymer or other physical
5 process. Slow tuning and over-conservative controlled variable values are employed
during step testing. While all controlled process variables are within safe limits, only one
manipulated variable (MV) at a time is step changed. Several manipulated variables are
moved when process variables exceed safe limits to ensure that the controlled process
variables return to the safe range, such that suitable MV targets for step testing are able to
10 be automatically discovered within a closed loop control environment. Thus, the step test
is able to be conducted mostly unsupervised and/or remotely via a telephone or network
connection.

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